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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,788	03/06/2002	Qing Chen	AINNO.0104	8949
22858	7590	08/15/2005	EXAMINER	
CARSTENS YEE & CAHOON, LLP			NGUYEN, VINCENT Q	
P O BOX 802334			ART UNIT	
DALLAS, TX 75380			PAPER NUMBER	
			2858	

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	<b>Application No.</b> 10/091,788	<b>Applicant(s)</b> CHEN ET AL.	
	<b>Examiner</b> Vincent Q. Nguyen	<b>Art Unit</b> 2858	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 08 August 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1-4.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

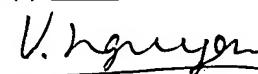
#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_.

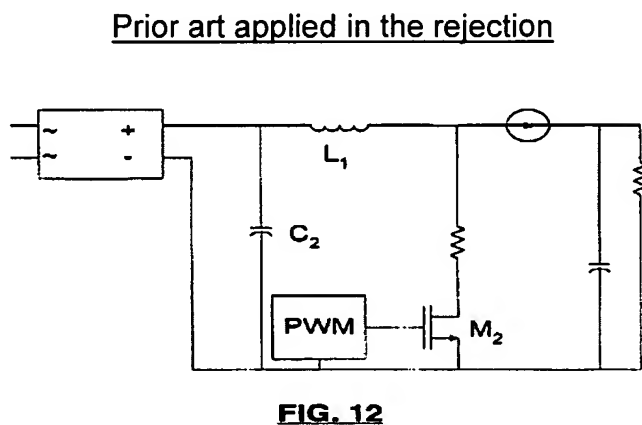
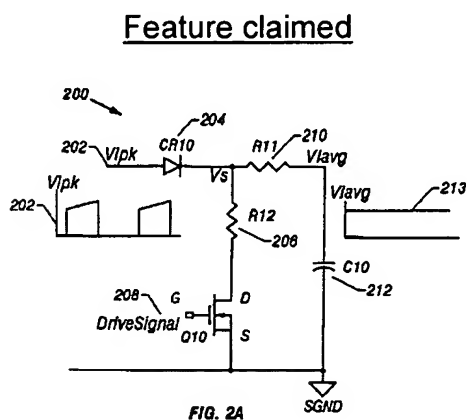
VINCENT Q. NGUYEN  
PRIMARY EXAMINER

  
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Primary Examiner  
Art Unit: 2858

Continuation of 11. does NOT place the application in condition for allowance because: The claims are broad enough to read on the prior art.

In particular, Applicant remarks, "As can be understood from the above explanation, coupling the resistor to the anode, as is done in Hirst, will not prevent the voltage across the resistor (and the control switch) from being discharged the way the claimed invention does. Therefore, the Hirst invention cannot duplicate the current estimation function of the claimed invention. In fact the limitation to prevent the voltage across resistor (and the control switch) is not claimed. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Even if the functional limitations such as "the resistor connected to the cathode to prevent the voltage being discharge" were recited, the diode in figure 12 of Hirst adequately performs the function (i.e. to prevent the voltage being discharge). Following is the circuit illustration:

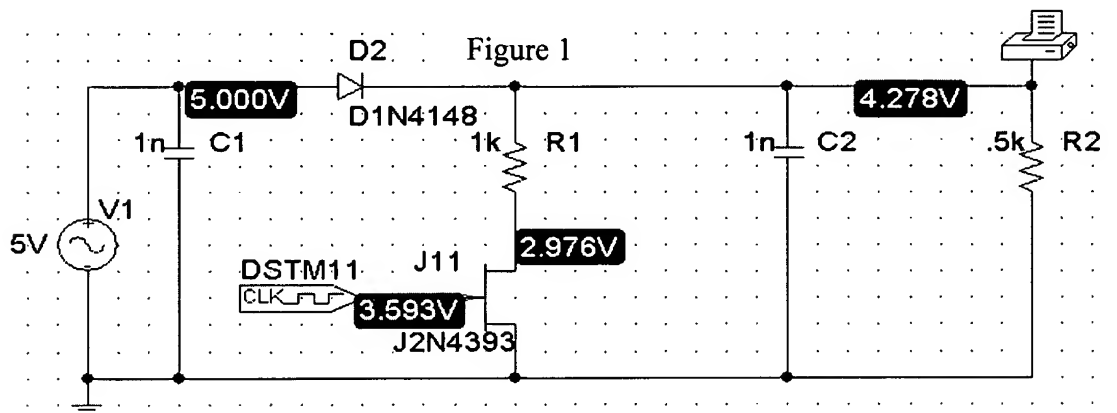


Regarding figure 2A, when Drive signal 208 is high, switch Q10 close, Vs is connected to ground through the resistor R12, excess voltage form capacitor

212 is discharging to the ground (Through R11 to Vs, no discharge current will flow through diode 204). The output voltage (Vlavg) is the DC voltage (213) across the capacitor 212.

THE CIRCUITS AND SIMULATIONS ARE AS FOLLOWED:

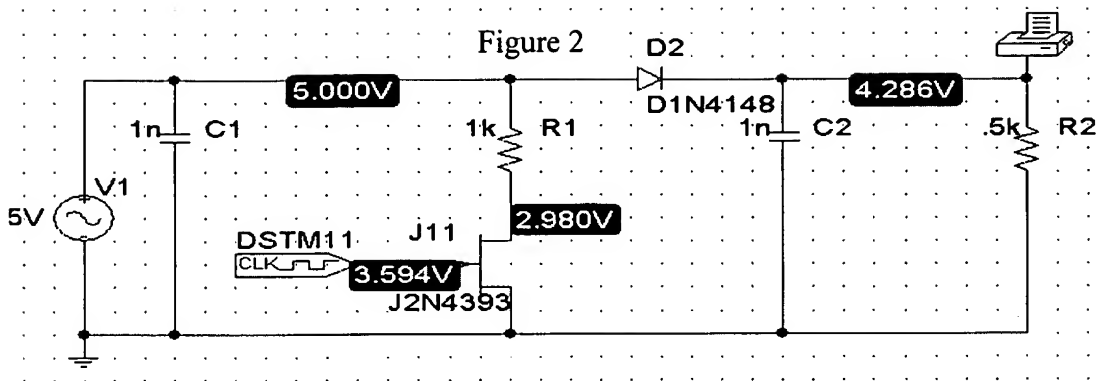
a.) Changing With Resistor R1 Coupled to the Cathode: (Output voltage =4.278V).



Regarding figure 1 above, the figure is similar to that of invention claimed (R1 is coupled to the cathode):

When PWM is high, M2 is closed, successes voltage from the capacitor is discharging to both parallel resistors, no discharge current flow through the diode. The output voltage is the voltage across the capacitor which is 4.278V (See attached data for simulation).

b.) Changing With Resistor R1 Coupled to the Anode: (Output voltage =4.286V).



Regarding figure above, (R1 is coupled to the anode):

When PWM is low, M2 is open, excess voltage from the capacitor is discharging through the parallel resistor, no current flows through the diode. The output voltage is the voltage across the capacitor is 4.286 V. (Compared to 4.278V)

Having the comparison and explanation above, the examiner assures that whether the modification by connecting "a resistor in series with a switch, with the resistor coupled to the cathode of the diode" instead of coupling to the anode of the diode would have been obvious to one of ordinary skill in the art because, in spite of whether the resistor is coupled to the anode or coupled to the cathode, the voltage on every node, and the output voltage remain the same (See the results of simulations using MicroSim above).

*V. Nguyen*  
8/12/2005

VINCENT Q. NGUYEN  
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